

STATE OF NORTH CAROLINA
COUNTY OF MECKLENBURG

IN THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION

Civil Action No. 13-CVS-9352

STATE OF NORTH CAROLINA ex rel.
NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL QUALITY, DIVISION
OF WATER RESOURCES,
Plaintiff,

v.

CATAWBA RIVERKEEPER
FOUNDATION, INC.,
Plaintiff-Intervenor,

v.

DUKE ENERGY CAROLINAS, LLC,
Defendant.

Civil Action No. 13-CVS-14661

STATE OF NORTH CAROLINA ex rel.
NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL QUALITY,
Plaintiff,

v.

DAN RIVER BASIN ASSOCIATION,
ROANOKE RIVER BASIN ASSOCIATION,
SOUTHERN ALLIANCE FOR CLEAN
ENERGY, and WATERKEEPER
ALLIANCE,

Plaintiff-Intervenors,

v.

DUKE ENERGY CAROLINAS, LLC,
Defendant.

STATE OF NORTH CAROLINA
COUNTY OF WAKE

IN THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION

Civil Action No. 13-CVS-4061

STATE OF NORTH CAROLINA ex rel.
NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL QUALITY, DIVISION
OF WATER RESOURCES,
Plaintiff,

v.

SIERRA CLUB, MOUNTAINTRUE, and
WATERKEEPER ALLIANCE,

Plaintiff-Intervenors,

v.

DUKE ENERGY PROGRESS, LLC,
Defendant.

Civil Action No. 13-CVS-11032

STATE OF NORTH CAROLINA ex rel.
NORTH CAROLINA DEPARTMENT OF
ENVIRONMENTAL QUALITY,
Plaintiff,

v.

SIERRA CLUB, WATERKEEPER
ALLIANCE, and CAPE FEAR RIVER
WATCH, INC.,

Plaintiff-Intervenors,

v.

DUKE ENERGY PROGRESS, LLC,
Defendant.

ORDER GRANTING MOTION FOR PARTIAL SUMMARY JUDGMENT

THIS CAUSE came on before the Hon. Paul Ridgeway, Superior Court Judge presiding pursuant to designation under Rule 2.1 of the General Rules of Practice, on Motion of the Defendants for Partial Summary Judgment. After reviewing the Motion, the Responses, the materials attached, and the pleadings in this matter, this Court is of the opinion that the Motion for Partial Summary Judgment should be GRANTED as set forth in this Order.

Findings of Undisputed Fact and Conclusions of Law

1. These are civil enforcement actions brought by the State of North Carolina and joined in by Plaintiff-Intervenors against the Defendants for injunctive relief. The Plaintiff and Plaintiff-Intervenors submitted separate Complaints which, together, seek injunctive relief under G.S. §143-215.6C for alleged violations of G.S. §§143-215.1(a)(1) and (a)(6), alleged violations of the National Pollutant Discharge Elimination System ("NPDES") permits, alleged violations of the groundwater standards established (at the time of the Complaint) by 15A N.C. Admin. Code Subchapter 2L ("2L Groundwater Rules"), and, in the case of Plaintiff-Intervenors' Complaints, alleged violations of various provisions of the Clean Water Act, 33 U.S.C. §§1311(a), 1342(a), and 1365(f) as set forth in those Complaints.

2. As to the plants that are the subject of this Motion (Riverbend Steam Station, Dan River Steam Station, Sutton Plant, and Asheville Electric Generating Plant), the State of North Carolina sought the identical injunctive relief as set forth in the various Complaints: (1) abatement of the violations of G.S. § 143-215.1, the NPDES permits and 2L Groundwater Rules, (2)

assessment of the ash basins and specifically assessment of whether exceedances in groundwater constituents beyond the compliance boundary were naturally occurring or a result of the coal ash basins, and (3) corrective action to restore groundwater quality.

3. As to these same plants, the various Plaintiff-Intervenors requested separate relief from the State of North Carolina, but relief that was substantively identical across Plaintiff-Intervenors Complaints in Intervention for each of the facilities. The Plaintiff-Intervenors sought injunctive relief under the 2L Groundwater Rules for exceedances of any constituents that were not naturally occurring and were caused by the coal ash basins, sought an assessment of those exceedances as specified in the 2L Groundwater Rules, sought implementation of any corrective actions required by the 2L Groundwater Rules, asked that the Defendants conduct sampling and testing of seeps for purposes of characterizing their constituents, and requested abatement of alleged unpermitted discharges from the coal ash basins under the Clean Water Act and the coordinate provisions of North Carolina law.

4. On August 20, 2014, the General Assembly ratified Session Law 2014-122, which includes the Coal Ash Management Act of 2014, portions of which are codified as Part 2I of Article 9 of Chapter 130A of the General Statutes (collectively "CAMA 2014"); this was permitted to become law by the Governor without signature on September 20, 2014. On June 15, 2015, the General Assembly enacted the Mountain Energy Act of 2015, which was ratified as Session Law 2015-110 and which became effective on June 24, 2015 ("2015

Mountain Energy Act”), which, among other things, amended CAMA 2014. As used herein, “CAMA” shall refer to CAMA 2014, as amended by the 2015 Mountain Energy Act.

5. CAMA amended and enacted a number of North Carolina Statutes relevant to the relief sought by the State of North Carolina and the Plaintiff-Intervenors.

a. G.S. §130A-309.210 was enacted to prohibit the construction of new coal combustion residuals surface impoundments¹ or the expansion of such existing impoundments after October 1, 2014;

b. The coal combustion residuals surface impoundments at the Riverbend Steam Station, at the Dan River Steam Station, at the Sutton Plant, and at the Asheville Electric Generating Plant were classified as “high priority”

¹ CAMA enacts G.S. §130A-309.201 to define a “coal combustion residuals surface impoundment” as a “topographic depression, excavation or diked area that is (i) primarily formed from earthen materials; (ii) without a base liner approved for use by Article 9 of Chapter 130A of the General Statutes or rules adopted thereunder for a combustion products landfill or coal combustion residuals landfill, industrial landfill, or municipal solid waste landfill; and (iii) designed to hold accumulated coal combustion residuals in the form of liquid wastes, wastes containing free liquids, or sludges, and that is not backfilled or otherwise covered during period of deposition. ‘Coal combustion residuals surface impoundment’ shall only include impoundments owned by a public utility, as defined in G.S. 62-3. ‘Coal combustion residuals surface impoundment’ includes all of the following: (a) An impoundment that is dry due to the deposited liquid having evaporated, volatilized, or leached. (b) An impoundment that is wet with exposed liquid. (c) Lagoons, ponds, aeration pits, settling ponds, tailing ponds, and sludge pits, when these structures are designed to hold accumulated coal combustion residuals. (d) A coal combustion residuals surface impoundment that has been covered with soil or other material after the final deposition of coal combustion residuals at the impoundment.”

and required to be closed in conformity with the closure and permitting provisions of CAMA by no later than August 1, 2019;²

c. CAMA enacted G.S. §130A-309.211 to require the assessment and, where appropriate, corrective action as to groundwater impacted by the coal ash basins at the facilities operated by the Defendants by, among other things, requiring: (1) the preparation and implementation of an approved Groundwater Assessment Plan, (2) the preparation and submission of a Groundwater Assessment Report, and (3) the preparation and implementation of any necessary Groundwater Corrective Action Plan which provides for the restoration of groundwater quality. In addition, N.C.G.S. § 143-215.1(k) was amended to eliminate the distinction between disposal systems that were permitted after 30 December 1983 and those permitted prior to that date. This provision of CAMA was recently held to have rendered moot this Court's declaratory ruling that the 2L Groundwater Rules required immediate action to eliminate the source or sources of groundwater contamination, as requested by the Plaintiff-Intervenors under those rules. The Supreme Court held that that case "ha[d] been rendered moot as a matter of both law and fact by virtue of the enactment of the revised version of N.C.G.S. § 143-215.1(k)," Cape Fear River Watch, et al. v. N.C. Env'tl. Mgmt. Comm'n, 368 N.C. 92, 100, 772 S.E.2d 445,

² On June 24, 2015, the Governor signed the "Mountain Energy Act of 2015," Session Law 2015-110, which amended this section as to the Asheville Steam Generating Plant. It provides that if Duke Progress receives a certificate of public convenience and necessity for the construction of a new natural-gas fired generating facility, and if Duke Progress issues a notice that it will permanently cease operation of the coal fired units at Asheville no later than January 31, 2020, then the closing date for the coal ash basins at Asheville will be no later than August 1, 2022.

450 (2015), which “eliminate[d] the distinction between facilities that were permitted before 30 December 1983 and facilities that were permitted after that date by providing that all permitted facilities, ‘without regard to the date that the system was first permitted,’ are subject to the corrective action requirements of Rule .0106(d).” Id. at 98, 772 S.E.2d at 449. The Environmental Management Commission has initiated the process of adopting conforming amendments into the 2L Groundwater Rules.

d. CAMA enacted G.S. § 130A-309.212 to require the identification and assessment of all discharges from CCR impoundments, the implementation of corrective action to prevent unpermitted discharges from CCR impoundments, and preparation of a plan for the identification of new discharges.

e. Defendants agree to submit by December 31, 2016, Site Analysis and Removal Plans for the four facilities that are the subject of this Order. For purposes of this Order, such Site Analysis and Removal Plans shall include the following topics or documents: (1) a description of the facility and its history, including a description of all on-site CCR surface impoundments; (2) a site map showing the CCR surface impoundments, topography, potential receptors within 2,640 feet of the compliance boundary, and monitoring locations; (3) hydrogeologic, geologic, and geotechnical investigation results; (4) groundwater modeling; (5) any planned beneficial use of CCR on-site; (6) drawings, schematics, and specifications; (7) construction quality assurance and quality control programs; (8) management of stormwater and wastewater; (9) final disposition of CCR from the site, including information on any CCR disposed

of or beneficially used offsite; (10) necessary permits; (11) post-closure monitoring and care for the CCR surface impoundments; and (12) closure project milestones³.

6. Defendants have submitted groundwater assessment plans for each of the four facilities addressed in this Order. DEQ conditionally approved the plans, requiring that certain changes be addressed in the groundwater assessment reports. Defendants have now submitted the groundwater assessment reports to DEQ, and they are currently under review.

7. In addition, during 2014, new NPDES permit applications were submitted to the DEQ for the coal ash basins at these plants. As part of this process, the Defendants have submitted analyses of all seeps associated with the coal ash basins that the Defendants have identified, sampled and tested the seeps, and provided a characterization of the chemicals found in the seeps (as sought by the relief requested by the Plaintiff-Intervenors).

8. As a result of these actions and statutory changes requiring further action, the Court finds that an Order on relief as to these facilities is appropriate, and the actions already taken together with those required by this Order (including dewatering, excavating and removing the contents of the coal ash basins) have remedied, or will remedy, the violations alleged in the Complaints.

9. This Court further finds that the issues alleged in the various Complaints with regard to unpermitted discharges, and with regard to violations

³ This Order does not make a determination regarding whether Defendants are required under CAMA to submit Closure Plans for these four facilities, nor does this Order attempt to select from among the elements listed by the legislature in G.S. §130A-309.214(a)(4) to be included in a Closure Plan.

of NPDES permits and groundwater standards at these facilities will be remedied by compliance with the provisions of this Order and the provisions of CAMA applicable to the four plants included in this Order. This Order does not resolve any issue with regard to: (1) any claims that may be pursued by DEQ pursuant to a joint enforcement agreement between DEQ and the United States Environmental Protection Agency, (2) any seeps that are determined to be waters of the United States, or (3) whether any seeps can be addressed through NPDES permitting.

Order on Relief

10. This Court has jurisdiction over the subject matter and the parties to these actions pursuant to G.S. 7A-245 and 143-215.6C. DEQ brought the Actions based on its reasonable cause to believe that Duke Energy Carolinas, LLC ("Duke Energy Carolinas") and Duke Energy Progress, LLC. ("Duke Energy Progress") have violated or might violate provisions of G.S. 143-215.1 and the 2L Groundwater Rules.

11. Venue in the Riverbend Action and the Dan River Action is proper in Mecklenburg County under G.S. 1-79 and 143-215.6C. Venue in the Asheville Action and the Sutton Action is proper in Wake County under G.S. 1-79 and 143-215.6C.

Specific Facility Terms

Riverbend Steam Station

12. Duke Energy Carolinas owns the Riverbend Station, located in Gaston County, which has been retired, in that it is no longer used for the production of electricity.

13. The Riverbend Station has two coal ash settling Impoundments totaling about 69 acres (“Riverbend Impoundments”) and as further identified on **Exhibit A**. The Riverbend Impoundments no longer receive sluice water, which was water that was used to transport to the Riverbend Impoundments the coal ash produced when the Riverbend Station was generating electricity.

14. The Riverbend Station also has coal ash stored in the Ash Storage and Cinder Storage areas located immediately south and west of the Riverbend Impoundments and indicated on the attached map marked as **Exhibit A** (collectively, “Inactive Ash Areas”).

15. The Riverbend Impoundments are Coal Combustion Residual (“CCR”) Surface Impoundments as defined in G.S. § 130A-309.201(6). Upon evaluation by DEQ and full adjudication of any challenges to DEQ’s evaluation, to the extent provided by applicable law, the Inactive Ash Areas may or may not be determined to be CCR Surface Impoundments as defined in G.S. § 130A-309.201(6).

16. The Riverbend Station holds NPDES Permit No. NC0004961 that authorizes and regulates discharges from permitted outfalls from the Riverbend Impoundments (“Riverbend NPDES Permit”) into Mountain Island Lake, a lake of the Catawba River created in 1924 by damming the Catawba River.

17. Mountain Island Lake is approximately 12 miles north of Charlotte, North Carolina. Mountain Island Lake provides drinking water to over three-quarters of a million people served by the Charlotte-Mecklenburg, Mount Holly, and Gastonia water systems.

18. The Riverbend NPDES Permit currently authorizes discharges through the following outfalls:

- a. Outfall 001, for discharge of once-through cooling water to Mountain Island Lake;
- b. Outfall 002, for discharges from the Riverbend Impoundments to Mountain Island Lake; and
- c. Outfall 002A, which discharges yard sump overflows to Mountain Island Lake.

19. Duke Energy Carolinas shall comply with the following requirements:

- a. Excavate and remove all CCR and Coal Combustion Products from the Riverbend Impoundments and the Inactive Ash Areas (collectively, "Riverbend Removed Ash") to lined locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or for use as structural fill or other beneficial use pursuant to applicable law, and thereafter stabilize and close the area where the Riverbend Impoundments and Inactive Ash Areas are located pursuant to applicable law. Excavation shall include all coal ash and such additional soil as is necessary for the protection of groundwater or as may be ordered by any regulatory agency. All Riverbend Removed Ash from the Riverbend Impoundments shall be removed by the statutory deadline directed by CAMA (presently August 1, 2019, or other date specified in any subsequent amendment of the CAMA deadline), or earlier as otherwise may be directed by other applicable law, but, in any event, no later than January 1, 2026. All

Riverbend Removed Ash from the Inactive Ash Areas shall be removed no later than January 1, 2026, or earlier if otherwise required by DEQ pursuant to applicable laws and regulation. If the Inactive Ash Areas are found by DEQ to be CCR Surface Impoundments, they shall be removed by the statutory deadline directed by CAMA (presently August 1, 2019, or other date specified in any subsequent amendment of the CAMA deadline), or earlier as otherwise may be directed by other applicable law, but, in any event, no later than January 1, 2026.

b. Defendant shall ensure that the Riverbend Removed Ash transferred for disposal is transferred to a lined CCR landfill, industrial landfill, or municipal solid waste landfill meeting applicable permitting, siting, construction and engineering requirements established by applicable law, statute or regulation. The Defendant shall take all necessary steps to ensure that the disposal or reuse of the Riverbend Removed Ash shall meet the requirements specified in **Exhibit B**, and Defendant will ensure any application for a permit submitted to DEQ shall comply with the requirements specified in Exhibit B. **DEQ neither endorses nor objects to the inclusion of Exhibit B in this Order.** DEQ shall review, and approve or deny any application for the disposal of Riverbend Removed Ash in accordance with applicable State statutes and regulations. If Riverbend Removed Ash is used as structural fill or in another beneficial use, such as lined mine reclamation, Defendant shall ensure that it is not deposited on the surface or subsurface of the land except in a lined facility and that any application for such use submitted to DEQ shall meet the requirements set forth in **Exhibit B**. DEQ shall review, and approve or deny any

application for the use of Riverbend Removed Ash as structural fill or other beneficial use in accordance with applicable State statutes and regulations.

c. During the removal process, sample the Riverbend Removed Ash in accordance with the protocol attached as **Exhibit C** and such other protocols or procedures as specified by any regulatory agency.

d. Complete investigation and undertake corrective action to eliminate groundwater violations at or beyond the compliance boundary to the extent required by G.S. § 130A-309.211, the 2L Groundwater Rules, any other applicable laws and regulations, and pursuant to a Corrective Action Plan approved by DEQ in accordance with Paragraph 22 below.

e. Comply with the terms and conditions of the NPDES Permit, and any modified or new NPDES permit issued for this facility, pending closure of the Riverbend Impoundments and Inactive Ash Areas.

f. Comply with and implement an approved Plan for Identification of New Discharges in accordance with G.S. § 130A-309.212(d), attached to and included as a part of any modified or new NPDES permit issued for the facility.

g. Dewater the Riverbend Impoundments pursuant to the terms and limitations of a NPDES permit and in compliance with the requirements in s.3(c) of S.L. 2014-122 and G.S. § 130A-309-214.

h. Remove or permanently close all pipes currently running through or beneath the Impoundments pursuant to an approved plan.

20. Duke Energy Carolinas shall otherwise close the Impoundments and Inactive Ash Areas should they later be determined to be CCR Surface Impoundments (after evaluation by DEQ and full adjudication of any challenges to DEQ's evaluation, to the extent provided by applicable law) at Riverbend in accordance with the standards and procedures contained in Section 3(c) and all applicable provisions of CAMA and the regulations that are cited therein, including the submission of a Site Analysis and Removal Plan as set forth in paragraph 5(e), as well as the additional provisions contained in this Order.

21. Commencing six months after the entry of this Order, and continuing every six months thereafter until one year after the removal of the Riverbend Removed Ash has been completed, Duke Energy Carolinas shall provide a written report to the Court summarizing its actions under this Order including (1) the amount of ash removed during the previous six-month period, (2) the results of all monitoring, (3) the progress of excavation, dewatering and closure, (4) all significant activities performed pursuant to this Order during the previous six-month period, and (5) the destination and/or intended use of the Riverbend Removed Ash. Duke Energy Carolinas may utilize reports to other federal or state courts or agencies to meet this reporting requirement or any portion of this reporting requirement.

22. Within the timeframes and as required by § 3(c) of CAMA and G.S. 130A-309.211(b), Duke Energy Carolinas shall submit a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan will be designed to address any groundwater contamination as required by

§ 3(c) of CAMA, G.S. § 130A-309.211, the 2L Groundwater Rules, and any other applicable laws, statutes, or regulations, but, at a minimum, to prevent contaminants from the coal ash sites from violating the 2L Groundwater Rules at or beyond the compliance boundary. For purposes of clarity, the current compliance boundary is shown on the map attached as **Exhibit D**. The actual compliance boundary is under regulatory review by DEQ and may be modified in the future, such as through permit modification or the purchase by Duke Energy Carolinas of additional property; provided, however, that Duke Energy Carolinas, for purposes of its obligation to address groundwater contamination, will treat the compliance boundary as not extending beyond the closest shoreline of rivers or lakes.

23. No later than thirty (30) days from DEQ's approval of the Groundwater Corrective Action Plan, Duke Energy Carolinas shall begin implementation of the plan in accordance with the plan's schedules.

24. Notwithstanding the preceding paragraph, Defendants must comply with all applicable requirements for groundwater monitoring and assessment, and corrective action to restore groundwater quality in accordance with CAMA and the 2L Groundwater Rules.

25. Following the removal of the ash, Defendant must investigate and remediate soil and groundwater impacted by the Riverbend Impoundments and

Inactive Ash Areas in conformance with the requirements of CAMA and the 2L Groundwater Rules, and as otherwise required by law.⁴

26. Within thirty (30) days of the entry of this Order, the Plaintiff-Intervenors shall have the right to sample any of the alleged unpermitted discharges. The Plaintiff-Intervenor representatives must be given access no later than five (5) days following notice and will be accompanied at all times while at the Facility for these purposes. The Plaintiff-Intervenors shall split samples with Duke Energy Carolinas and DEQ upon request.

27. The terms of this Order define Duke Energy Carolina's minimum obligations regarding closure. Any Site Analysis and Removal Plan submitted by Duke Energy Carolinas shall not be inconsistent with this Order.

28. A decision by any agency on the Site Analysis and Removal Plan for the Riverbend Steam Station that is final under the North Carolina Administrative Procedure Act and otherwise appealable under applicable law may be challenged by Duke Energy and/or any of the Plaintiff-Intervenors by filing a contested case in the Office of Administrative Hearings, but only to the extent it is inconsistent with this Order.

Dan River Steam Station

29. Duke Energy Carolinas owns the Dan River Station, located in Rockingham County, which has ceased using coal to generate electricity, although Duke Energy Carolinas has constructed and is now operating a natural gas powered combined cycle electric generating station at this site.

⁴ This Order does not address whether or under what circumstances, if any, a compliance boundary may be eliminated or the obligations of the parties upon elimination of a compliance boundary.

30. The Dan River Station has one Impoundment receiving stormwater and one inactive Impoundment (which was the subject of a release in February, 2014), which together currently contain approximately 2,620,000 tons of ash as set forth in **Exhibit E**.

31. The Dan River Impoundments are CCR Impoundments as defined in G.S. 130A-309.201(6).

32. The Dan River Station also has coal ash stored in the Ash Storage areas as indicated on the attached map marked as **Exhibit E** (collectively, "Inactive Ash Areas"). Upon evaluation by DEQ and full adjudication of any challenges to DEQ's evaluation, to the extent provided by applicable law, the Inactive Ash Areas may or may not be determined to be CCR Surface Impoundments as defined in G.S. § 130A-309.201(6).

33. The Dan River Station holds NPDES Permit No. NC0003468 ("Dan River NPDES Permit") that authorizes and regulates discharges from the following permitted outfalls:

- a. Outfalls 001, 002, and 002A; and
- b. Outfall 001A as an internal outfall discharging low volume waste sources.

34. Duke Energy Carolinas shall comply with the following requirements:

- a. Excavate and move all CCR and CCP from the Dan River Impoundments and the Inactive Ash Areas ("Dan River Removed Ash") to lined locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste

landfill or for use as structural fill or other beneficial use pursuant to applicable law, and thereafter stabilize and close the area where the Dan River Impoundments and Inactive Ash Areas are located pursuant to applicable law. Excavation shall include all coal ash and such additional soil as is necessary for the protection of groundwater or as may be ordered by any regulatory agency. All Dan River Removed Ash from the Dan River Impoundments shall be removed by the statutory deadline directed by CAMA (presently August 1, 2019, or other date specified in any subsequent amendment of the CAMA deadline), or earlier as otherwise may be directed by other applicable law, but, in any event, no later than January 1, 2026. All Dan River Removed Ash from the Inactive Ash Areas shall be removed no later than January 1, 2026, or earlier if otherwise required by DEQ pursuant to applicable laws and regulation. If the Inactive Ash Areas are found by DEQ to be CCR Surface Impoundments, they shall be removed by the statutory deadline directed by CAMA (presently August 1, 2019, or other date specified in any subsequent amendment of the CAMA deadline), or earlier as otherwise may be directed by other applicable law, but, in any event, no later than January 1, 2026.

b. Defendant shall ensure that the Dan River Removed Ash transferred for disposal is transferred to a lined CCR landfill, industrial landfill, or municipal solid waste landfill meeting applicable permitting, siting, construction and engineering requirements established by applicable law, statute or regulation. The Defendant shall take all necessary steps to ensure that the disposal or reuse of the Dan River Removed Ash shall meet the requirements

specified in **Exhibit B**, and Defendant will ensure any application for a permit submitted to DEQ shall comply with the requirements specified in Exhibit B. **DEQ neither endorses nor objects to the inclusion of Exhibit B in this Order.** DEQ shall review, and approve or deny any application for the disposal of Dan River Removed Ash in accordance with applicable State statutes and regulations. If Dan River Removed Ash is used as structural fill or in another beneficial use, such as lined mine reclamation, Defendant shall ensure that it is not deposited on the surface or subsurface of the land except in a lined facility and that any application for such use submitted to DEQ shall meet the requirements set forth in **Exhibit B**. DEQ shall review, and approve or deny any application for the use of Dan River Removed Ash as structural fill or other beneficial use in accordance with applicable State statutes and regulations.

c. During the removal process, sample the Dan River Removed Ash in accordance with the protocol attached as **Exhibit C** and such other protocols or procedures as specified by any regulatory agency.

d. Complete investigation and undertake corrective action to eliminate groundwater violations at or beyond the compliance boundary to the extent required by G.S. § 130A-309.211, the 2L Groundwater Rules, any other applicable laws and regulations, and pursuant to a Corrective Action Plan approved by DEQ in accordance with Paragraph 37 below.

e. Comply with the terms and conditions of the NPDES Permit, and any modified or new NPDES permit issued for this facility, pending closure of the Dan River Impoundments and Inactive Ash Areas;

f. Comply with and implement an approved Plan for Identification of New Discharges in accordance with G.S. § 130A-309.212(d), attached to and included as a part of any modified or new NPDES permit issued for the facility.

g. Dewater the Dan River Impoundments pursuant to the terms and limitations of a NPDES permit and in compliance with the requirements in s.3(c) of S.L. 2014-122 and G.S. § 130A-309-214.

h. Remove or permanently close all pipes currently running through or beneath the Impoundments pursuant to an approved plan.

35. Duke Energy Carolinas shall otherwise close the Impoundments and Inactive Ash Areas should they later be determined to be CCR Surface Impoundments (after evaluation by DEQ and full adjudication of any challenges to DEQ's evaluation, to the extent provided by applicable law) at Dan River in accordance with the standards and procedures contained in Section 3(c) and all applicable provisions of CAMA and the regulations that are cited therein, including the submission of a Site Analysis and Removal Plan as set forth in paragraph 5(e), as well as the additional provisions contained in this Order.

36. Commencing six months after the entry of this Order, and continuing every six months thereafter until one year after the removal of the Dan River Removed Ash has been completed, Duke Energy Carolinas shall provide a written report to the Court summarizing its actions under this Order including (1) the amount of ash removed during the previous six-month period, (2) the results of all monitoring, (3) the progress of excavation, dewatering and closure, (4) all

significant activities performed pursuant to this Order during the previous six-month period, and (5) the destination and/or intended use of the Dan River Removed Ash. Duke Energy Carolinas may utilize reports to other federal or state courts or agencies to meet this reporting requirement or any portion of this reporting requirement.

37. Within the timeframes and as required by § 3(c) of CAMA and G.S. 130A-309.211(b), Duke Energy Carolinas shall submit a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan will be designed to address any groundwater contamination as required by § 3(c) of CAMA, G.S. § 130A-309.211, the 2L Groundwater Rules, and any other applicable laws, statutes, or regulations, but, at a minimum, to prevent contaminants from the coal ash sites from violating the 2L Groundwater Rules at or beyond the compliance boundary. For purposes of clarity, the current compliance boundary is shown on the map attached as **Exhibit E**. The actual compliance boundary is under regulatory review by DEQ and may be modified in the future, such as through permit modification or the purchase by Duke Energy Carolinas of additional property; provided, however, that Duke Energy Carolinas, for purposes of its obligation to address groundwater contamination, will treat the compliance boundary as not extending beyond the closest shoreline of rivers or lakes.

38. No later than thirty (30) days from DEQ's approval of the Groundwater Corrective Action Plans, Duke Energy Carolinas shall begin implementation of the plans in accordance with the plans' schedules.

39. Notwithstanding the preceding paragraph, Defendant must comply with all applicable requirements for groundwater monitoring and assessment, and corrective action to restore groundwater quality in accordance with CAMA and the 2L Groundwater Rules.

40. Following the removal of the ash, Defendant must investigate and remediate soil and groundwater impacted by the Dan River Impoundments and Inactive Ash Areas in conformance with the requirements of CAMA and the 2L Groundwater Rules, and as otherwise required by law.⁵

41. Within thirty (30) days of the entry of this Order, the Plaintiff-Intervenors shall have the right to sample any of the alleged unpermitted discharges. The Plaintiff-Intervenor representatives must be given access no later than five (5) days following notice and will be accompanied at all times while at the Facility for these purposes. The Plaintiff-Intervenors shall split samples with Duke Energy Carolinas and DEQ upon request.

42. The terms of this Order define Duke Energy Carolina's minimum obligations regarding closure. Any Site Analysis and Removal plan submitted by Duke Energy Carolinas shall not be inconsistent with this Order.

43. A decision by any agency on the Site Analysis and Removal Plan for the Dan River Steam Station that is final under the North Carolina Administrative Procedure Act may be challenged by Duke Energy Carolinas

⁵ This Order does not address whether or under what circumstances, if any, a compliance boundary may be eliminated or the obligations of the parties upon elimination of a compliance boundary.

and/or any of the Plaintiff-Intervenors by filing a contested case in the Office of Administrative Hearings, but only to the extent it is inconsistent with this Order.

Sutton Plant

44. Duke Energy Progress owns the Sutton Station, located in New Hannover County, which has ceased using coal to generate electricity, although Duke Energy Progress has constructed and is now operating a natural gas powered combined cycle electric generating station at the same site.

45. The Sutton Station contains one Impoundment and one inactive Impoundment ("Sutton Impoundments"), which currently contain approximately 7,160,000 tons of ash, and coal ash stored in areas located to the south of the Sutton Impoundments ("Inactive Ash Areas") as set forth in **Exhibits F** and G.

46. The Sutton Impoundments are CCR Impoundments as defined in G.S. 130A-309.201(6). Upon evaluation by DEQ and full adjudication of any challenges to DEQ's evaluation, to the extent provided by applicable law, the Inactive Ash Areas may or may not be determined to be CCR Surface Impoundments as defined in G.S. § 130A-309.201(6).

47. The Sutton Station holds NPDES Permit No. NC0001422 ("Sutton NPDES Permit") that authorizes and regulates discharges from the following permitted outfalls:

- a. Outfall 001, for discharges to the Cape Fear River;
- b. Outfall 002, for "internal" discharges from the old ash pond;
- c. Outfall 003, for Chemical Metal Cleaning Waste;
- d. Outfall 004, for "internal" discharges from the new ash pond;

- e. Outfall 005, for low-volume waste water from the new combined cycle generating facility;
- f. Outfall 006, for discharges from the combined cycle auxiliary boiler.

48. Duke Energy Progress shall comply with the following requirements:

a. Excavate and remove all CCR and CCP from the Sutton Impoundments and the Inactive Ash Areas ("Sutton Removed Ash") to lined locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or for use as structural fill or other beneficial use pursuant to applicable law, and thereafter to stabilize and close the area where the Sutton River Impoundments and Inactive Ash Areas are located. Excavation shall include all coal ash and such additional soil as is necessary for the protection of groundwater or as may be ordered by any regulatory agency. All Sutton Removed Ash from the Sutton Impoundments shall be removed by the statutory deadline directed by CAMA (presently August 1, 2019, or other date specified in any subsequent amendment of the CAMA deadline), or earlier as otherwise may be directed by other applicable law, but, in any event, no later than January 1, 2026. All Sutton Removed Ash from the Inactive Ash Areas shall be removed no later than January 1, 2026, or earlier if otherwise required by DEQ pursuant to applicable laws and regulation. If the Inactive Ash Areas are found by DEQ to be CCR Surface Impoundments, they shall be removed by the statutory deadline directed by CAMA (presently August 1, 2019, or other date specified in any

subsequent amendment of the CAMA deadline), or earlier as otherwise may be directed by other applicable law, but, in any event, no later than January 1, 2026.

b. Defendant shall ensure that the Sutton Removed Ash transferred for disposal is transferred to a lined CCR landfill, industrial landfill, or municipal solid waste landfill meeting applicable permitting, siting, construction and engineering requirements established by applicable law, statute or regulation. The Defendant shall take all necessary steps to ensure that the disposal or reuse of Sutton Removed Ash shall meet the requirements specified in **Exhibit B**, and Defendant will ensure any application for a permit submitted to DEQ shall comply with the requirements specified in Exhibit B. **DEQ neither endorses nor objects to the inclusion of Exhibit B in this Order.** DEQ shall review, and approve or deny any application for the disposal of Sutton Removed Ash in accordance with applicable State statutes and regulations. If Sutton Removed Ash is used as structural fill or in another beneficial use, such as lined mine reclamation, Defendant shall ensure that it is not deposited on the surface or subsurface of the land except in a lined facility and that any application for such use submitted to DEQ shall meet the requirements set forth in **Exhibit B**. DEQ shall review, and approve or deny any application for the use of Sutton Removed Ash as structural fill or other beneficial use in accordance with applicable State statutes and regulations.

c. During the removal process, sample the Sutton Removed Ash in accordance with the protocol attached as **Exhibit C** and such other protocols or procedures as specified by any regulatory agency.

d. Complete investigation and undertake corrective action to eliminate groundwater violations at or beyond the compliance boundary to the extent required by G.S. § 130A-309.211, the 2L Groundwater Rules, any other applicable laws and regulations, and pursuant to a Corrective Action Plan approved by DEQ in accordance with Paragraph 49 below.

e. Comply with the terms and conditions of the NPDES Permit, and any modified or new NPDES permit issued for this facility, pending closure of the Sutton Impoundments and Inactive Ash Areas.

f. Comply with and implement an approved Plan for Identification of New Discharges in accordance with G.S. § 130A-309.212(d), attached to and included as a part of any modified or new NPDES permit issued for the facility.

g. Dewater the Sutton Impoundments pursuant to the terms and limitations of a NPDES permit and in compliance with the requirements in s.3(c) of S.L. 2014-122 and G.S. § 130A-309-214.

h. Remove or permanently close all pipes currently running through or beneath the Impoundments pursuant to an approved plan.

49. Duke Energy Progress shall otherwise close the Impoundments and Inactive Ash Areas should they later be determined to be CCR Surface Impoundments (after evaluation by DEQ and full adjudication of any challenges to DEQ's evaluation, to the extent provided by applicable law) at Sutton in accordance with the standards and procedures contained in Section 3(c) and all applicable provisions of CAMA and the regulations that are cited therein,

including the submission of a Site Analysis and Removal Plan as set forth in paragraph 5(e), as well as the additional provisions contained in this Order.

50. Commencing six months after the entry of this Order, and continuing every six months thereafter until one year after the removal of the Sutton Removed Ash has been completed, Duke Energy Progress shall provide a written report to the Court summarizing its actions under this Order including (1) the amount of ash removed during the previous six-month period, (2) the results of all monitoring, (3) the progress of excavation, dewatering and closure, (4) all significant activities performed pursuant to this Order during the previous six-month period, and (5) the destination and/or intended use of the Sutton Removed Ash. Duke Energy Progress may utilize reports to other federal or state courts or agencies to meet this reporting requirement or any portion of this reporting requirement.

51. Within the timeframes and as required by § 3(c) of CAMA and G.S. 130A-309.211(b), Duke Energy Progress shall submit a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan will be designed to address any groundwater contamination as required by § 3(c) of CAMA, G.S. § 130A-309.211, the 2L Groundwater Rules, and any other applicable laws, statutes, or regulations, but, at a minimum, to prevent contaminants from the coal ash sites from violating the 2L Groundwater Rules at or beyond the compliance boundary. For purposes of clarity, the current compliance boundary is shown on the map attached as **Exhibit G**. The actual compliance boundary is under regulatory review by DEQ and may be modified in

the future, such as through permit modification or the purchase by Duke Energy Progress of additional property; provided, however, that Duke Energy Progress, for purposes of its obligation to address groundwater contamination, will treat the compliance boundary as not extending beyond the closest shoreline of rivers or lakes.

52. No later than thirty (30) days from DEQ's approval of the Groundwater Corrective Action Plans, Duke Energy Progress shall begin implementation of the plans in accordance with the plans' schedules.

53. Notwithstanding the preceding paragraph, Defendant must comply with all applicable requirements for groundwater monitoring and assessment, and corrective action to restore groundwater quality in accordance with CAMA and the 2L Groundwater Rules.

54. Following the removal of the ash, Defendant must investigate and remediate soil and groundwater impacted by the Riverbend Impoundments and Inactive Ash Areas in conformance with the requirements of CAMA and the 2L Groundwater Rules, and as otherwise required by law.⁶

55. Within thirty (30) days of the entry of this Order, the Plaintiff-Intervenors shall have the right to sample any of the alleged unpermitted discharges. The Plaintiff-Intervenor representatives must be given access no later than five (5) days following notice and will be accompanied at all times while

⁶ This Order does not address whether or under what circumstances, if any, a compliance boundary may be eliminated or the obligations of the parties upon elimination of a compliance boundary.

at the Facility for these purposes. The Plaintiff-Intervenors shall split samples with Duke Energy Progress and DEQ upon request.

56. The terms of this Order define Duke Energy Carolina's minimum obligations regarding closure. Any Site Analysis and Removal Plan submitted by Duke Energy Carolinas shall not be inconsistent with this Order.

57. A decision by any agency on the Site Analysis and Removal Plan for Sutton that is final under the North Carolina Administrative Procedure Act may be challenged by Duke Energy Progress and/or any of the Plaintiff-Intervenors by filing a contested case in the Office of Administrative Hearings, but only to the extent it is inconsistent with this Order.

Asheville Electric Generating Plant

58. Duke Energy Progress owns the Asheville Electric Generating Plant ("Asheville"), located in Buncombe County, which is an actively operating steam power electric generating station.

59. Asheville has two coal ash settling ponds (consisting of industrial byproducts of electricity generation including coal combustion residuals) totaling about 91 acres ("Asheville Impoundments") and capable of storing up to a combined 900 million gallons of ash. These basins constitute the area within the waste boundary as set forth in **Exhibit H**.

60. Asheville holds NPDES Permit No. NC0000396 ("Asheville NPDES Permit") that authorizes and regulates discharges from the following permitted outfalls:

a. Outfall 001, for discharges from the active 1982 Pond to the French Broad River;

b. Outfall 002, for discharge of once-through cooling water to Lake Julian; and

c. Stormwater Outfalls SW-1 to SW-6.

61. On June 24, 2015, the Governor signed into law the “Mountain Energy Act of 2015,” Session Law 2015-110, which amended CAMA as to Asheville in contemplation of a proposed plan to construct a Combined Cycle Natural Gas Facility and permanently cease operating the coal-fired units. It provides that if Duke Energy Progress receives a certificate of public convenience and necessity for the construction of a new natural-gas fired generating facility, and if Duke Energy Progress issues a notice that it will permanently cease operation of the coal fired units at Asheville no later than January 31, 2020, then the closing date for the coal ash basins at Asheville will be no later than August 1, 2022.

62. Duke Energy Progress shall comply with the following requirements:

a. Excavate and remove all CCR and CCP (“Asheville Removed Ash”) from the Asheville Impoundments to lined locations for disposal in a CCR landfill, industrial landfill, or municipal solid waste landfill or for use as structural fill or other beneficial use pursuant to applicable law, and thereafter stabilize and close the area where the Asheville Impoundments are located pursuant to applicable law. Excavation shall include all coal ash and such additional soil as is necessary for the protection of groundwater or as may be ordered by any regulatory agency. All Asheville Removed Ash from the

Asheville Impoundments shall be removed by the statutory deadline directed by CAMA (presently August 1, 2019 but subject to the provisions of the Mountain Energy Act of 2015 as noted above, or other date specified in any subsequent amendment of the CAMA deadline), or earlier as otherwise may be directed by other applicable law, but, in any event, no later than January 1, 2026. All Asheville Removed Ash shall be removed no later than January 1, 2026, or earlier if otherwise required by DEQ pursuant to applicable laws and regulation.

b. Defendant shall ensure that the Asheville Removed Ash transferred for disposal is transferred to a lined CCR landfill, industrial landfill, or municipal solid waste landfill meeting applicable permitting, siting, construction and engineering requirements established by applicable law, statute or regulation. The Defendant shall take all necessary steps to ensure that the disposal or reuse of the Asheville Removed Ash shall meet the requirements specified in **Exhibit B**, and Defendant will ensure any application for a permit submitted to DEQ shall comply with the requirements specified in Exhibit B. **DEQ neither endorses nor objects to the inclusion of Exhibit B in this Order.** DEQ shall review, and approve or deny any application for the disposal of Asheville Removed Ash in accordance with applicable State statutes and regulations. If Asheville Removed Ash is used as structural fill or in another beneficial use, such as lined mine reclamation, Defendant shall ensure that it is not deposited on the surface or subsurface of the land except in a lined facility and that any application for such use submitted to DEQ shall meet the requirements set forth in **Exhibit B**. DEQ shall review, and approve or deny any

application for the use of Asheville Removed Ash as structural fill or other beneficial use in accordance with applicable State statutes and regulations.

c. During the removal process, sample the Asheville Removed Ash in accordance with the protocol attached as **Exhibit C** and such other protocols or procedures as specified by any regulatory agency.

d. Complete investigation and undertake corrective action to eliminate groundwater violations at or beyond the compliance boundary to the extent required by G.S. § 130A-309.211, the 2L Groundwater Rules, any other applicable laws and regulations, and pursuant to a Corrective Action Plan approved by DEQ in accordance with Paragraph 61 below;

e. Comply with the terms and conditions of the NPDES Permit, and any modified or new NPDES permit issued for this facility, pending closure of the Asheville Impoundments.

f. Comply with and implement an approved Plan for Identification of New Discharges in accordance with G.S. § 130A-309.212(d), attached to and included as a part of any modified or new NPDES permit issued for the facility.

g. Dewater the Asheville Impoundments pursuant to the terms and limitations of a NPDES permit and in compliance with the requirements in s.3(c) of S.L. 2014-122 and G.S. § 130A-309-214..

h. Remove or permanently close all pipes currently running through or beneath the Impoundments pursuant to an approved plan.

63. Duke Energy Progress shall otherwise close the Impoundments at Asheville in accordance with the standards and procedures contained in Section 3(c) and all applicable provisions of CAMA and the regulations that are cited therein, including the submission of a Site Analysis and Removal Plan as set forth in paragraph 5(e), as well as the additional provisions contained in this Order.

64. Commencing six months after the entry of this Order, and continuing every six months thereafter until one year after the removal of the Asheville Removed Ash has been completed, Duke Energy Progress shall provide a written report to the Court summarizing its actions under this Order including (1) the amount of ash removed during the previous six-month period, (2) the results of all monitoring, (3) the progress of excavation, dewatering and closure, (4) all significant activities performed pursuant to this Order during the previous six-month period, and (5) the destination and/or intended use of the Asheville Removed Ash. Duke Energy Progress may utilize reports to other federal or state courts or agencies to meet this reporting requirement or any portion of this reporting requirement.

65. Within the timeframes and as required by § 3(c) of CAMA and G.S. 130A-309.211(b), Duke Energy Progress shall submit a proposed Groundwater Corrective Action Plan to DEQ for its review and approval. The Corrective Action Plan will be designed to address any groundwater contamination as required by § 3(c) of CAMA, G.S. § 130A-309.211, the 2L Groundwater Rules, and any other applicable laws, statutes, or regulations, but, at a minimum, to prevent

contaminants from the coal ash sites from violating the 2L Groundwater Rules at or beyond the compliance boundary. For purposes of clarity, the current compliance boundary is shown on the map attached as **Exhibit I**. The actual compliance boundary is under regulatory review by DEQ and may be modified in the future, such as through permit modification or the purchase by Duke Energy Progress of additional property; provided, however, that Duke Energy Progress, for purposes of its obligation to address groundwater contamination, will treat the compliance boundary as not extending beyond the closest shoreline of rivers or lakes.

66. No later than thirty (30) days from DEQ's approval of the Groundwater Corrective Action Plans, Duke Energy Progress shall begin implementation of the plans in accordance with the plans' schedules.

67. Notwithstanding the preceding paragraph, Defendant must comply with all applicable requirements for groundwater monitoring and assessment, and corrective action to restore groundwater quality in accordance with CAMA and the 2L Groundwater Rules.

68. Following the removal of the ash, Defendant must investigate and remediate soil and groundwater impacted by the Asheville Impoundments in conformance with the requirements of CAMA and the 2L Groundwater Rules, and as otherwise required by law.⁷

⁷ This Order does not address whether or under what circumstances, if any, a compliance boundary may be eliminated or the obligations of the parties upon elimination of a compliance boundary.

69. Within thirty (30) days of the entry of this Order, the Plaintiff-Intervenors shall have the right to sample any of the alleged unpermitted discharges. The Plaintiff-Intervenor representatives must be given access no later than five (5) days following notice and will be accompanied at all times while at the Facility for these purposes. The Plaintiff-Intervenors shall split samples with Duke Energy Progress and DEQ upon request.

70. The terms of this Order define Duke Energy Carolina's minimum obligations regarding closure. Any Site Analysis and Removal Plan submitted by Duke Energy Carolinas shall not be inconsistent with this Order.

71. A decision by any agency on the Site Analysis and Removal Plan for Asheville that is final under the North Carolina Administrative Procedure Act may be challenged by Duke Energy Progress and/or any of the Plaintiff-Intervenors by filing a contested case in the Office of Administrative Hearings, but only to the extent it is inconsistent with this Order.

Terms Applicable to All Facilities

72. The Court finds that the Defendants' compliance with the terms of this Order (which include compliance with CAMA as it applies to the four facilities in this Order and additional actions which have or will take place) will provide the relief requested by the Plaintiff and Plaintiff-Intervenors in their Complaints.

73. This Order does not purport to address all requirements in CAMA, other applicable provisions of G.S. 130A or 143 or all other applicable laws, statutes and regulations. Except as set forth in this Order, Defendants' obligation to comply with all other applicable laws, statutes and regulations currently in effect or that may later be enacted or promulgated is unchanged.

74. This Order shall not affect in any way any claims that may be pursued by DEQ pursuant to a joint enforcement agreement between DEQ and the United States Environmental Protection Agency.

75. This is solely an action for injunctive relief brought under N.C.G.S. § 143-215.6C, and does not include any assessment of civil penalties.

76. This Order shall not prohibit DEQ from taking any action to enforce Defendants' compliance with future NPDES permits or any requirements of CAMA, or any other applicable laws, statutes and regulations not addressed by this Order.

77. Provisions of this Order related specifically to the removal of ash shall be enforceable by contempt power of the Court.

78. It shall not be considered a violation of this Order if performance of any of the obligations set forth in this Order is delayed by causes beyond the control of the Defendants, or any entity controlled by the Defendants or their contractors, despite best efforts to fulfill the obligation. Such causes include but are not limited to war, civil unrest, act of God, or act of a governmental or regulatory body delaying performance or making it impossible, including, without limitation, any appeal or decision remanding, overturning, modifying, or otherwise acting (or failing to act) on a permit or similar permission or action that prevents or delays an action needed for the performance of any of the work contemplated under this Order such that it prevents or substantially interferes with its performance within the time frames specified herein. The Defendants (or either of them) shall bear the burden of proving by a preponderance of the evidence the

existence of such circumstances. Such circumstances do not include financial inability to complete the work, increased cost of performance, or changes in business or economic circumstances.

a. In acting on applications and issuing permits, DEQ shall act as expeditiously as practicable, and consistent with all applicable deadlines established under G.S. §130A-309.203 and other applicable law.

b. The failure of a permitting authority to issue a necessary permit in a timely fashion which prevents the Defendants (or either of them) from meeting the requirements in this Order must be beyond the control of the Defendants, and the Defendants must have taken all steps available to them to obtain the necessary permit, including but not limited to submitting a complete permit application, responding to requests for additional information by the permitting authority in a timely fashion, and accepting lawful permit terms and conditions after expeditiously exhausting any legal rights to appeal terms and conditions imposed by the permitting authority.

c. The requirement that the Defendants use “best efforts” (as referenced above) includes using commercially reasonable efforts to anticipate any event that delays their obligations and to address the event in a commercially reasonable manner as it is occurring or following the event such that delay is minimized to the greatest extent possible.

d. The Defendants (or either of them) shall notify the Court and the Plaintiff and Plaintiff-Intervenors in writing within ten (10) days of their knowledge of the event which causes or may cause delay, describing in detail

the anticipated length of the delay, the precise cause or causes of the delay, the measures taken and to be taken by the Defendants (or either of them) to prevent or minimize the delay, and a timetable by which those measures will be implemented. Failure to comply with the notice requirements constitutes a waiver of any defense to a failure to comply with the terms and conditions of this Order. The parties may, in advance of the actual occurrence of an event causing delay, move the Court for a determination as to whether the event will excuse the delay.

79. In the event the Defendants (or either of them) fail to comply in a timely manner with any provision of this Order (including the timely submission of any document or plan and the completion of any such plan), they (or either of them) shall pay a stipulated civil penalty to the State of North Carolina for any violation as follows:

1. \$2500.00 per day for the first twelve (12) days, and
2. \$7500.00 per day thereafter for each violation.

80. Stipulated civil penalty payments shall be payable monthly on or before the fifteenth day of each succeeding month.

81. Any payment under this section shall not waive either Defendant's duty to meet its obligations under this Order or preclude commencement of an action to compel its compliance with the terms of the Order.

82. This Order shall remain in force and effect until all obligations and terms and payment of all required penalties have been completed or satisfied (including by incorporation into a permit). Upon completion of all obligations

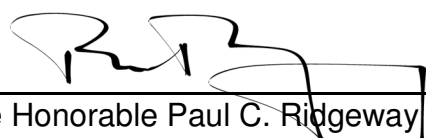
imposed by this Order, the Plaintiff and the Plaintiff-Intervenors shall file appropriate notice and satisfaction documents with the Court.

83. This Court will maintain continuing jurisdiction to enforce the terms and conditions of this Order, to modify this Order, and to resolve disputes arising under this Order. Absent the consent of all parties, a party may seek modification or amendment of this Order only upon a showing of a substantial change of facts and circumstances such that it would no longer be equitable to enforce the terms and conditions of this Order absent such modification or amendment.

84. The entry of this Order shall terminate all proceedings as to the facilities set forth in this Order under these actions and will resolve all civil claims for injunctive relief of the State of North Carolina alleged in these actions as to these facilities as well as all civil claims of Plaintiff-Intervenors alleged in the Complaints-in-Intervention as to these facilities. This Order shall be given full preclusive effect for purposes of *res judicata* and collateral estoppel in any other litigation for issues resolved through this Order. For clarity, the issues listed in paragraph 9 above have not been resolved by this Order. Provided, however, that nothing in this paragraph shall limit the right of any party to apply to the Court to enforce compliance with the terms and conditions of this Order.

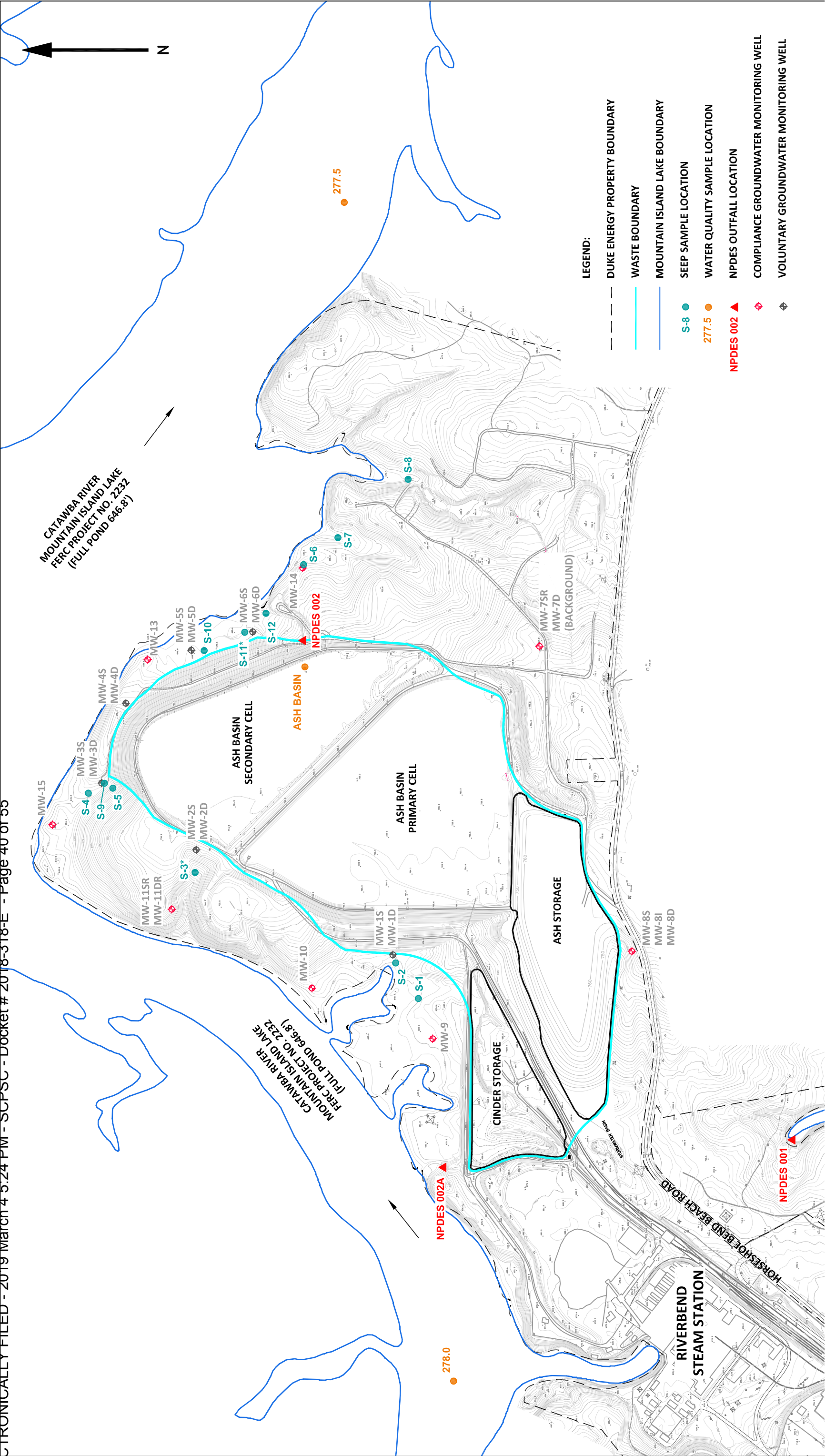
IT IS HEREBY SO ORDERED.

This 1st day of June, 2016.



The Honorable Paul C. Ridgeway
Superior Court Judge

Exhibit A



- LEGEND:
- DUKE ENERGY PROPERTY BOUNDARY
 - WASTE BOUNDARY
 - MOUNTAIN ISLAND LAKE BOUNDARY
 - SEEP SAMPLE LOCATION
 - WATER QUALITY SAMPLE LOCATION
 - NPDES 002
 - NPDES 001
 - NPDES 002A
 - COMPLIANCE GROUNDWATER MONITORING WELL
 - VOLUNTARY GROUNDWATER MONITORING WELL

- NOTES:
1. PARCEL DATA FOR THE SITE WAS OBTAINED FROM DUKE ENERGY REAL ESTATE AND IS APPROXIMATE.
 2. TOPOGRAPHY DATA PROVIDED BY DUKE ENERGY.
 3. WASTE BOUNDARY IS APPROXIMATE.
 4. GROUNDWATER MONITORING WELL LOCATIONS PROVIDED BY DUKE ENERGY.
 5. SEEP SAMPLING LOCATIONS WERE OBTAINED BY HDR USING A TRIMBLE HANDHELD GPS UNIT ON APRIL 29, 2014.
 6. WATER QUALITY AND NPDES SAMPLE LOCATIONS WERE PROVIDED BY DUKE ENERGY AND ARE APPROXIMATE.
 7. NPDES OUTFALL LOCATIONS WERE PROVIDED BY DUKE ENERGY AND ARE APPROXIMATE.
 8. S-10 NOT SAMPLED DUE TO INSUFFICIENT FLOW.
 9. * INDICATES SEEP SAMPLING LOCATIONS WERE NOT RECORDED WITH GPS UNIT AND ARE APPROXIMATE.



IDENTIFIED SEEPS AND WATER QUALITY

SAMPLE LOCATION MAP
RIVERBEND STEAM STATION ASH BASIN
DUKE ENERGY CAROLINAS, LLC
GASTON COUNTY, NC

HDR

HDR Engineering, Inc.
of the Carolinas

License Number F-6116
440 South Church Street Charlotte, NC 28202

| | |
|--------|--------------|
| DATE | MAY 15, 2014 |
| FIGURE | 1 |

Exhibit B

Disposition of Removed Ash

The Defendant shall take all necessary steps to assure that Removed Ash shall be stored in accord with the requirements of this Exhibit.

Removed Ash under this Order will be stored in a lined landfill space meeting the requirements of G.S. 130A-309.214(a)(1)b of CAMA, including those for a Municipal Solid Waste Landfill ("MSW") meeting the requirements of 15A NCAC 13B.1600, an industrial landfill meeting the requirements of 15A NCAC 13B.0500, or a lined landfill meeting the CCR landfill liner requirements of 40 C.F.R. § 257.70(b) set forth in rules entitled "Hazardous and Solid Waste Management system: Disposal of Coal Combustion Residuals from Electric Utilities" promulgated by the United States Environmental Protection Agency ("EPA") and published on April 17, 2015, 80 Fed Reg. 21302 ("CCR rule"), and meeting all other requirements established by applicable statute, law, and regulation.

Removed Ash placed in structural fills or mine reclamations will be deposited into a properly permitted, synthetically lined facility meeting all construction, and engineering requirements of 40 CFR Part 258 (Subtitle D of RCRA) and, if disposal occurs in North Carolina, North Carolina's sanitary landfill siting and design regulation (15A NCAC 13B .0503). All structural fills shall satisfy the requirements of N.C. Gen. Stat. § 130A-309.220(b)(1) (2015).

The Defendant will not seek approval of an alternative cap under CAMA, an alternative composite liner pursuant to 40 C.F.R. § 257.70(c), a design pursuant to 40 C.F.R. § 258.40(a)(1), 15A NCAC 13B .0503(2)(d)(ii)(A), or other alternative design or liner provisions of the applicable North Carolina solid waste rules or laws, unless they have obtained prior written approval from the Conservation Group(s)¹ for that design. Approval by the Conservation Group(s) will not be unreasonably withheld. Any material that is commingled with Ash shall be disposed of in accord with applicable federal or state regulations.

Nothing in this Exhibit shall prohibit the Defendant from disposing, depositing, or processing Removed Ash through beneficial reuse including lined structural fill applications, lined mine reclamations, abrasives, filter materials, concrete, cement or such other technologies as provided for under state and federal law (including the CCR rule, as applicable). In no event shall any Removed Ash and Soil be placed in a solid waste landfill that does not meet the requirements set forth in this Exhibit, including the lining requirements set out above. If the Removed Ash and Soil is to be removed and returned at a facility to be constructed, or if it is to be removed to and stored in a structural fill site, or used for another beneficial purpose, the Removed Ash and Soil may be temporarily deposited on the surface or subsurface of the land, but shall not be permanently deposited on the surface or subsurface of the land except in a lined facility meeting all the requirements set forth in this Exhibit.

¹ The Conservation Groups shall be contacted through the Southern Environmental Law Center and are as follows: for H.F. Lee Removed Ash, Sound Rivers and Waterkeeper Alliance; for Cape Fear Removed Ash, Cape Fear River Watch and Waterkeeper Alliance; and for Weatherspoon Removed Ash, Winyah Rivers Foundation.

Exhibit C

The Removed Ash shall be analyzed using a Toxicity Characteristics Leaching Procedure (“TCLP”) analysis for heavy metal parameters only (i.e., see italicized listed parameters) and shall be conducted annually on ash from each impoundment or other area from which ash is removed. Once every five years, a TCLP analysis for all parameters shall be conducted on ash from each area of Removed Ash. Any sample to undergo TCLP analysis shall be collected and preserved *in situ* (i.e., immediately upon exposure to air).

The TCLP analysis shall include the following parameters (i.e., note the leachate concentration of concern is shown in milligrams per liter in parentheses):

| | | |
|----------------------------|--|---|
| <i>Arsenic</i> (5.0) | 1,4-Dichlorobenzene (7.5) | Nitrobenzene (2.0) |
| <i>Barium</i> (100.0) | 1,2-Dichloroethane (0.5) | Pentachlorophenol (100.0) |
| Benzene (0.5) | 1,1-Dichloroethylene (0.7) | Pyridine (5.0) |
| <i>Cadmium</i> (1.0) | 2,4-Dinitrotoluene (0.13) | <i>Selenium</i> (1.0) |
| Carbon tetrachloride (0.5) | Endrin (0.02) | <i>Silver</i> (5.0) |
| Chlordane (0.03) | Hexachlorobenzene (0.13) | Tetrachloroethylene (0.7) |
| Chlorobenzene (100.0) | Heptachlor (and its hydroxide) (0.008) | Toxaphene (0.5) |
| Chloroform (6.0) | Hexachloro-1,3-butadiene (0.5) | Trichloroethylene (0.5) |
| <i>Chromium</i> (5.0) | Hexachloroethane (3.0) | 2,4,5-Trichlorophenol (400.0) |
| m-Cresol (200.0) | <i>Lead</i> (5.0) | 2,4,6-Trichlorophenol (2.0) |
| o-Cresol (200.0) | Lindane (0.4) | 2,4,5-TP (Silvex) (1.0) |
| p-Cresol (200.0) | <i>Mercury</i> (0.2) | Vinyl chloride (0.2) |
| Cresol (200.0) | Methoxychlor (10.0) | Boron, Cobalt, Manganese, Thallium, Vanadium |
| 2,4-D (10.0) | Methyl ethyl ketone (200.0) | |

Additionally, Priority Pollutants not included in the TCLP analysis, plus the top 10 unidentified peaks not captured by any aforementioned test range, shall also be reported.

The ash shall also be directly tested (NOT via TCLP) for polychlorinated biphenyls (PCBs) utilizing the 209 congeners test (Method 1668).

An analysis shall be conducted on the Removed Ash from each area at a frequency that is dependent on the dry tons of ash removed or expected to be removed during the calendar year. The monitoring frequency schedule shall be as stipulated in the following table:

| Amount of Product Distributed (metric tons per 365-day period) | Amount of Product Distributed (short tons per 365-day period) | Monitoring Frequency |
|--|---|---|
| 0 < mDT/yr < 290 | 0 < DT/yr < 319 | Once per Year |
| 290 ≤ mDT/yr < 1,500 | 319 ≤ DT/yr < 1,650 | Once per Quarter or Four Times per Year |
| 1,500 ≤ mDT/yr < 15,000 | 1,650 ≤ DT/yr < 16,500 | Once per 60 Days or |

| | | |
|-----------------------------|----------------------------|---|
| | | Six Times per Year |
| $15,000 \leq \text{mDT/yr}$ | $16,500 \leq \text{DT/yr}$ | Once per Month or 12 Times per Year |

The analysis shall include the following minimum parameters:

| | | |
|----------|------------|---|
| Arsenic | Magnesium | Potassium |
| Barium | Manganese | Selenium |
| Cadmium | Mercury | Silver |
| Calcium | Molybdenum | Sodium |
| Chromium | Nickel | Total Solids Percentage |
| Copper | pH | Zinc |
| Lead | Phosphorus | Boron, Cobalt, Manganese, Thallium, Vanadium |

Laboratory analyses and/or operational data shall be performed/gathered on the ash such that it is representative and as it is to be distributed and shall be made by a laboratory certified for the required parameter(s) under 15A NCAC 2H .0800 or 15A NCAC 2H .1100.

Method 200.8 shall be used instead of anywhere Method 200.7 would have been used.

Exhibit D

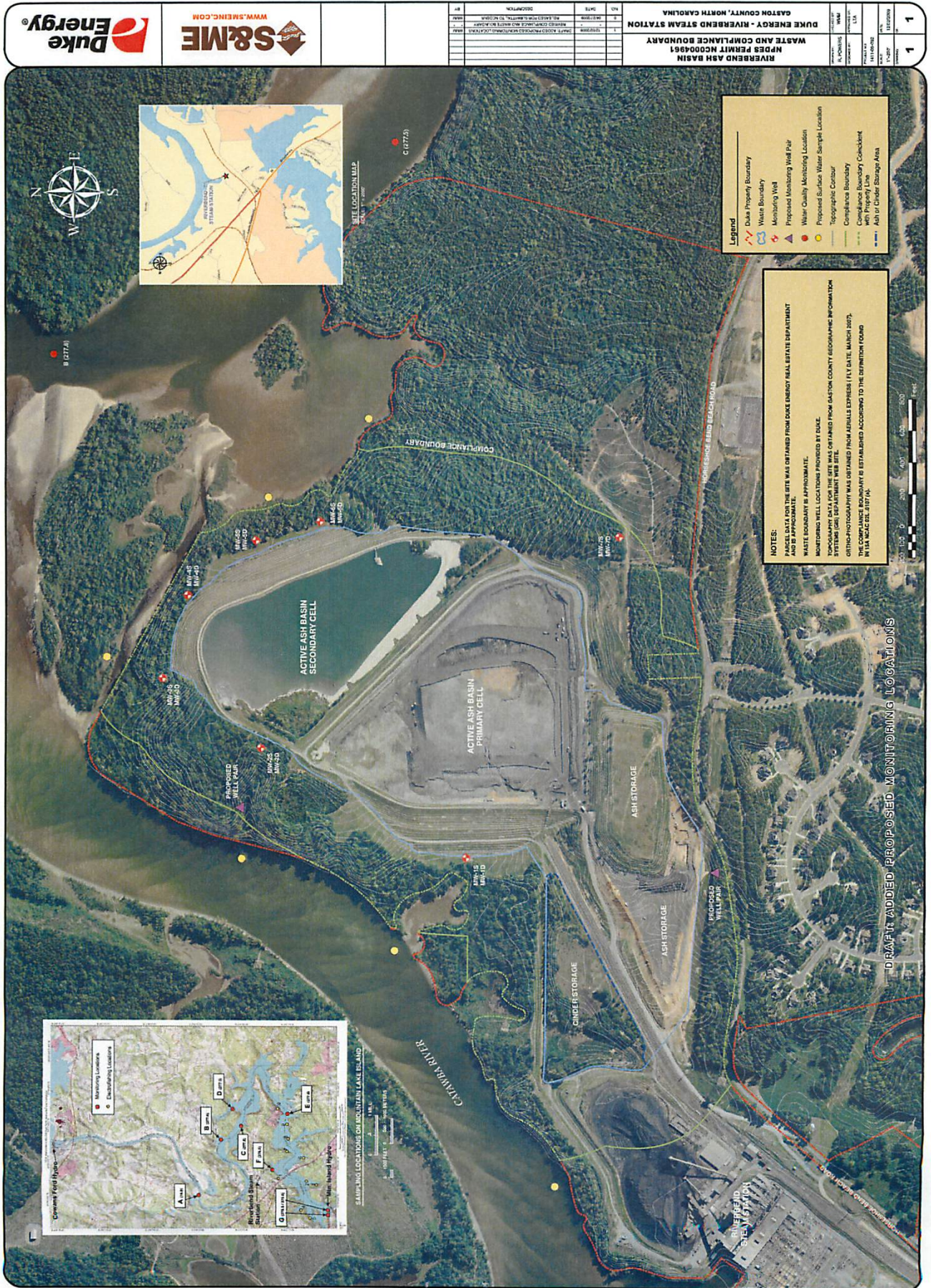
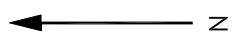
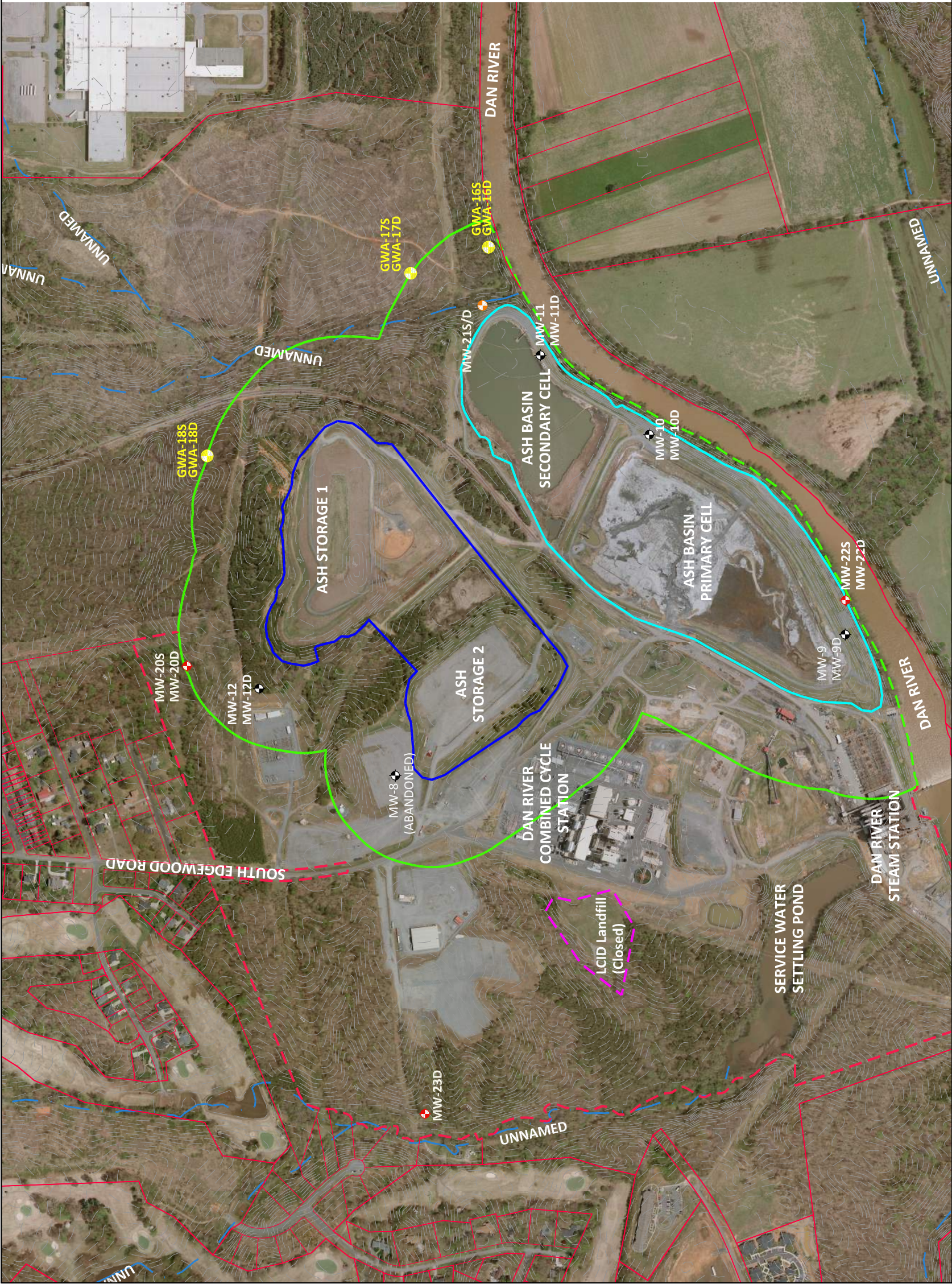


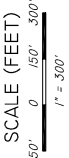
Exhibit E



LEGEND:

- DUKE ENERGY PROPERTY BOUNDARY
- ASH BASIN WASTE BOUNDARY
- ASH STORAGE AREA BOUNDARY
- COMPLIANCE BOUNDARY
- COMPLIANCE BOUNDARY COINCIDENT WITH DUKE PROPERTY BOUNDARY
- STREAM
- LANDFILL - LAND CLEARING & INERT DEBRIS
- TOPOGRAPHIC CONTOUR (4-FT INTERVAL)
- PARCEL BOUNDARY
- ASH BASIN COMPLIANCE GROUNDWATER MONITORING WELL (RED)
- ASH BASIN VOLUNTARY GROUNDWATER MONITORING WELL (BLACK)
- NEWLY ADDED ASH BASIN COMPLIANCE GROUNDWATER MONITORING WELL
- FORMER NPDES COMPLIANCE WELL

- NOTES:
1. PARCEL DATA FOR THE SITE WAS OBTAINED FROM DUKE ENERGY REAL ESTATE AND IS APPROXIMATE.
 2. WASTE BOUNDARY IS APPROXIMATE.
 3. AS-BUILT MONITORING WELL LOCATIONS PROVIDED BY DUKE ENERGY.
 4. COMPLIANCE SHALLOW MONITORING WELLS (S) ARE SCREENED ACROSS THE SURFICIAL WATER TABLE.
 5. COMPLIANCE DEEP MONITORING WELLS (D) ARE SCREENED IN THE TRANSITION ZONE BETWEEN COMPETENT BEDROCK AND REGGUTH.
 6. TOPOGRAPHY DATA FOR THE SITE WAS OBTAINED FROM NC DOT GEOGRAPHIC INFORMATION SYSTEM (GIS) WEB SITE (DATED 2020)
 7. AERIAL PHOTOGRAPHY WAS OBTAINED FROM WSP DATED APRIL 2024.
 8. THE COMPLIANCE BOUNDARY IS ESTABLISHED ACCORDING TO THE DEFINITION FOUND IN 15A NCAC 02L .0107 (a).
 9. PROPOSED WELL LOCATIONS ARE APPROXIMATE AND MAY BE ADJUSTED BASED ON FIELD CONDITIONS.
 10. AREA OF WETNESS SAMPLE LOCATIONS WERE OBTAINED BY HDR USING A TRIMBLE HANDHELD GPS UNIT.
 11. HYDROGRAPHY WAS OBTAINED FROM USGS 7.5-MINUTE SERIES TOPOGRAPHIC MAPS SOUTHEAST EDEN, NC AND NORTHEAST EDEN, NC-VA.
 12. PROPOSED ADDITIONAL ASSESSMENT GROUNDWATER MONITORING WELL LOCATIONS ARE APPROXIMATE AND MAY BE ADJUSTED BASED ON FIELD CONDITIONS.



HDR

DUKE ENERGY CAROLINAS, LLC
DAN RIVER STEAM STATION ASH BASIN
NPDES PERMIT NO. NC0003468
ROCKINGHAM COUNTY, NORTH CAROLINA

| | |
|--------|------------|
| DATE | APRIL 2016 |
| FIGURE | TBD |

Exhibit F

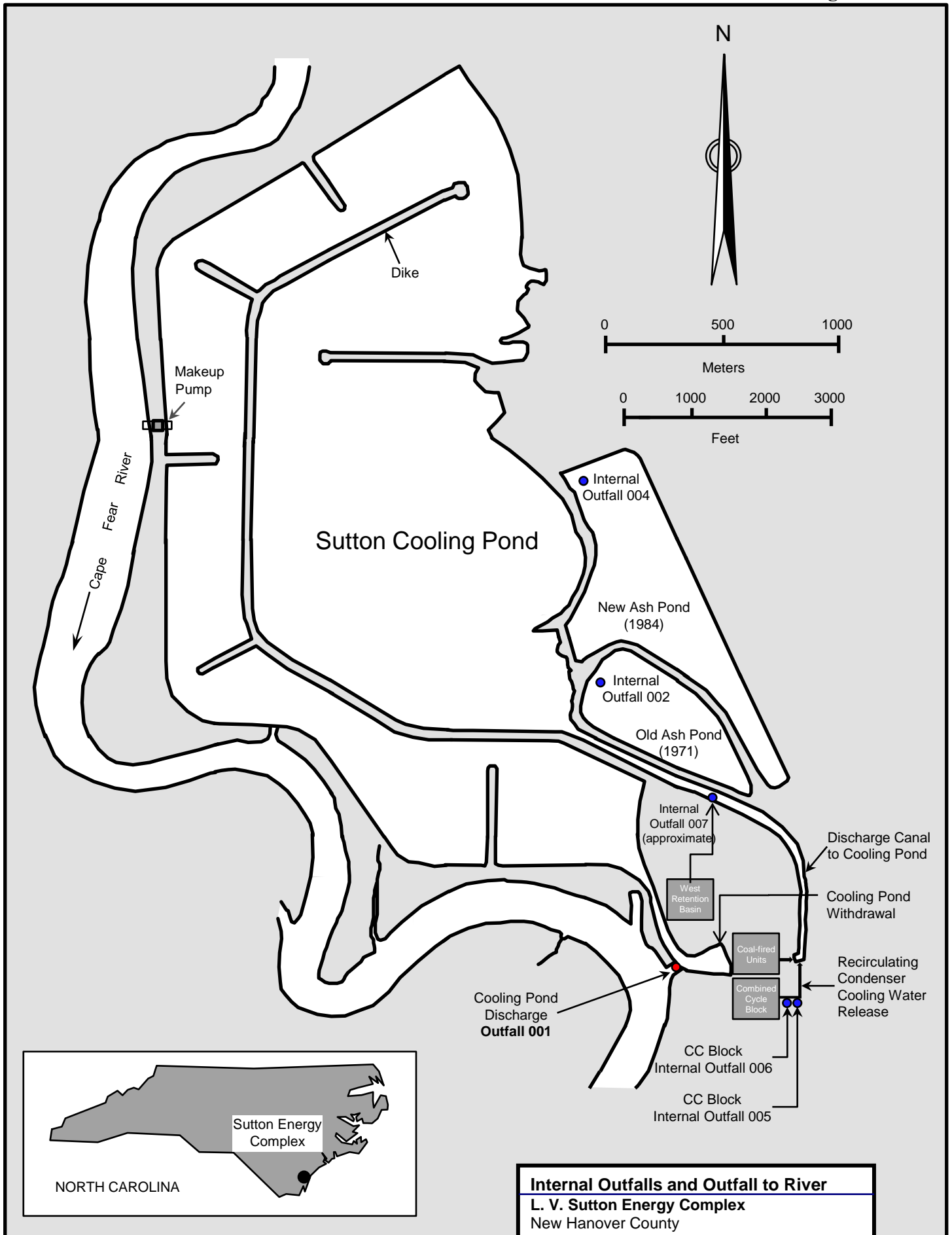


Exhibit G

GRAPHIC SCALE

1500 0 1500 3000

IN FEET

Groundwater Compliance Boundary for Coal Ash Disposal Units Plant Sutton | Wilmington, NC

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Exhibit H